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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/670,108 | 09/24/2003 | Hassan Bodaghi | 34303/124 | 7167 |

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| EXAMINER | |
|---|---|
| YAO, SAMCHUAN CUA | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1733 | |

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/670,108 | BODAGHI, HASSAN | |
| | Examiner | Art Unit | |
| | Sam Chuan C. Yao | 1733 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *24 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pereira (US 6,087,551) in view of Franskosky et al (US 5,527,600) and WO 95/18886 A1.

With respect to claim 8, Pereira discloses a process of making a carded multi-denier carded non-woven fabric. The non-woven fabric comprises a homogenous blend of coarse fibers and fine fibers; wherein the coarse fibers preferably have a denier range of 4-15 and a weight range of 10-90 wt%, while the fine fibers preferably have a denier range of 2-4 and a weight range of 90-10 wt%; and further wherein the fabric is formed by conventional processes such as thermal bonding, resin bonding, etc. (col. 2 lines 31-67; col. 3 lines 39-43).

Periera does not teach combining thermal bonding and resin bonding methods to form a fabric. Moreover, Periera does not teach using fusible binder fibers, which have a denier which is similar to the denier of fine fibers. However, it would have been obvious in the art to combine the thermal and resin bonding techniques in forming the non-woven fabric of Periera, because Franskosky teaches forming a low fiber leakage carded web, by applying combination of thermal bonding and

resin bonding methods, where fusible binder fibers are used in the thermal bonding operation (abstract; col. 1 line 64 to col. 2 line 36; col. 3 lines 15-62; col. 4 lines 1-43; col. 5 lines 9-38) or WO '886 teaches combining binding fibers and resin bonding to form a dry-formed fibrous web to overcome the problems of the prior art processes of forming the fibrous web such as web delamination and/or fiber dusting (abstract; pages 1-4). Moreover, it would have been obvious in the art to use fusible binder fibers which have a denier of around 4 as such is the most common suitable binder fibers in the art as exemplified in the teachings of Franskosky (col. 4 lines 1-27). As for the recited amount of binder fibers of 1-5%, see claim 8 of the WO '886 publication, where it is disclosed using claim 8.

As for the limitation of 6-10 wt% of latex binder, see page 6 full paragraph 4; page 8 full paragraph 4; pages 10-11 of the WO '886 publication.

With respect to claim 1, it is acknowledged that a preferred denier for fine fibers in a web disclosed by Pereira is around 2-4 (abstract; col. 2 lines 31-54), while this claim as presently recited require a denier range of 5-6 for fine fibers.. Nevertheless, it would have been obvious in the art to use fine fibers having a denier of around 5, because the denier of 5 is close enough to a preferred denier of 4, one in the art would have reasonably expected that a substantially identical desired property/effect would have been achieved.

More important, the teachings of Pereira would have suggested to one in the art that fine fibers having a denier of around 5 is suitable in forming a multi-denier fiber web as long as coarse fibers which are used have a denier of at least 6,

preferable at least 7 (col. 2 lines 7-20). As for using bi-component binder fibers, it is a notoriously common practice in the art to interchangeably use mono-component or bi-component fusible fibers as binder fibers for a fibrous web. As for the rest of the limitations in this claim, these limitations are essentially identical to claim 8, for the same reasons set forth above, these repeated limitations would have been obvious in the art.

With respect to claims 2-3, see column 2 lines 55-64 of the Pereira patent.

With respect to claim 4, the limitation in this claim is expected to naturally flow from a process of Pereira where bi-component binder fibers are used.

With respect to claim 5, in light of the similarity of the production processes between the claimed invention and a process of Pereira wherein a combination of thermal bonding (i.e. fusible fiber bonding) and resin bonding is used, it is reasonably expected that a fabric of Pereira must naturally a similar characteristics of the presently claimed fabric.

With respect to claim 6, it is reasonably expected that a finished fabric of Pereira must almost have zero moisture, if not completely free of moisture.

With respect to claim 7, it is well known and conventional in the art to use sheath/core binder fibers, where the sheath component has a lower melting point and thinner than the core component of each fiber.

***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Richard Crispino can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sam Chuan C. Yao
Primary Examiner
Art Unit 1733

Scy
03-19-06